



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/657,079	09/09/2003	David Alexander	IMMR-IMD0002C(034701-067)	9176
60140 7590 10/09/2007 IMMERSION -THELEN REID BROWN RAYSMAN & STEINER LLP P.O. BOX 640640 SAN JOSE, CA 95164-0640				
			EXAMINER BANTA, TRAVIS R	
			ART UNIT 3714	PAPER NUMBER
			MAIL DATE 10/09/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/657,079

Applicant(s)

ALEXANDER ET AL.

Examiner

Travis R. Banta

Art Unit

3714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-24,26-28,30 and 31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 8/3/2007.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

The amendment to claims 12 and 13 is acknowledged. Claims 12-24, 26-28, 30-31, and 33 are pending.

The Applicant has stated an information disclosure statement dated July 12, 2005 was never received. The Examiner has a record of the information disclosure statement but is unable to ascertain why it was never sent. A new signed and initialed copy is provided herewith dated August 3, 2007 and considered September 28, 2007 which is understood to be equivalent to the July 12, 2005 information disclosure statement. The Examiner apologizes for the error.

Claim Rejections - 35 USC § 112

Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Specifically, Claim 12 recites “a capture mechanism having a coupling mechanism and being configured to engage a peripheral device manipulatable by a user therein.” It is unclear what is “therein”. It seems as though a user is inside the peripheral device which does not make sense in light of the specification. The examiner will understand the claim to mean a peripheral device that is manipulatable by a user.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 3714

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuchihashi et al (US Patent No. 4,955,654). Tsuchihashi discloses an apparatus with a capture mechanism configured to engage a user manipulated peripheral device manipulated by a user (Col 3, lines 44-51; Col 4, lines 39-41), a sensing assembly configured to detect movement of the peripheral device when engaged by the capture mechanism (Fig 6, item 607), a dimension-adjusting mechanism configured to move parallel to a direction of movement of the peripheral device when engaged by the capture mechanism (Col 3, line 56 - Col 4, line 12), and an actuator configured to apply force feedback to the peripheral device when engaged by the capture mechanism, the force feedback being based on control signals associated with the detected movement of the peripheral device (Col 5, lines 2-20). Tsuchihashi et al. do not specifically disclose a user of the peripheral device feels the force feedback. However, force feedback as a term in the art means a user will receive sensory feedback about how the peripheral device is moved. It is therefore obvious that a user will feel force feedback in Tsuchihashi et al.'s device. Tsuchihashi et al. discloses that his invention is not the conventional force feedback device because it uses a speed control instead of a position control. Regardless of what is used (speed or position control), it is still a force feedback mechanism that obviously provides sensory feedback to a user as established above.

Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuchihashi et al in view of Rosenberg et al (US Patent No. 5,805,140).

Regarding claim 13, Tsuchihashi et al discloses an apparatus and method for a dimension-adjusting mechanism to capture and adjust automatically when manipulating a peripheral device. Tsuchihashi et al does not specifically disclose that the apparatus is configured to adjust in response to a movement of a peripheral device. Rosenberg et al teaches an apparatus wherein the dimension-adjustment mechanism is configured to automatically adjust dimensions of a coupling mechanism in response to a movement of the peripheral device, the coupling mechanism being configured to couple the peripheral device when engaged by the capture mechanism to the sensor assembly (Col 6, lines 25-34). Therefore, it would have been obvious to one of ordinary skill in the art to provide an apparatus and method for a dimension-adjusting mechanism to capture and adjust automatically when manipulating a peripheral device as disclosed by Tsuchihashi et al where the dimension-adjustment mechanism is configured to automatically adjust dimensions of a coupling mechanism in response to a movement of the peripheral device as taught by Rosenberg et al for the purposes of providing a completely automated system for peripheral manipulation.

Regarding claim 14, Tsuchihashi et al discloses an apparatus and method for a dimension-adjusting mechanism to capture and adjust automatically when manipulating a peripheral device. Tsuchihashi et al does not specifically disclose that the apparatus includes an outer tubular-member and an inner-tubular member at least partially disposed within the outer-tubular member for adjusting the capture mechanism and the inner tubular-member being coupled to the sensing assembly at a distal end of the inner tubular-member. Rosenberg et al teaches an apparatus with a dimension-adjusting capture mechanism including an outer tubular-member and an inner-tubular member at least partially disposed within the outer-tubular member

Art Unit: 3714

for adjusting the capture mechanism and the inner tubular-member being coupled to the sensing assembly at a distal end of the inner tubular-member (Fig 6). Therefore, it would have been obvious to one of ordinary skill in the art to provide an apparatus and method for a dimension-adjusting mechanism to capture and adjust automatically when manipulating a peripheral device as disclosed by Tsushihashi et al with a dimension-adjusting capture mechanism including an outer tubular-member and an inner-tubular member at least partially disposed within the outer-tubular member for adjusting the capture mechanism and the inner tubular-member being coupled to the sensing assembly at a distal end of the inner tubular-member as taught by Rosenberg et al for the purposes of extending the reach of the existing apparatus when coupling to a peripheral device.

Claims 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsushihashi et al in view of Rosenberg et al in further view of Bailey (US 6,062,865). Tsushihashi et al/Rosenberg et al does not specifically disclose an apparatus comprising a first and second pulley, a belt disposed about the first and the second pulley, a trolley configured to move along a guide rail in response to a corresponding movement of the peripheral device when engaged by the capture mechanism (claims 15-18), a rotation-motion sensor to measure rotation of the peripheral device and a translational-motion device to measure translational-motion when engaged by the capture mechanism (claims 16-18), the translational-motion sensor being coupled to the first pulley (claim 17), or an actuator coupled to a second pulley with the actuator being configured to apply force-feedback by controlling a rotation of the second pulley (claim 18). However, Bailey teaches an apparatus comprising a first and second pulley, a belt disposed about the first and the second pulley, a trolley configured to move along a guide rail in response to a

corresponding movement of the peripheral device when engaged by the capture mechanism (Fig 2), a rotation-motion sensor to measure rotation of the peripheral device and a translational-motion device to measure translational-motion when engaged by the capture mechanism (Fig 2), the translational-motion sensor being coupled to the first pulley (Fig 3), or an actuator coupled to a second pulley with the actuator being configured to apply force-feedback by controlling a rotation of the second pulley (Figs 2 and 3). Therefore, it would have been obvious to one of ordinary skill in the art to provide an apparatus with a capture mechanism configured to engage a peripheral device with a sensing assembly configured to detect movement of the peripheral device when engaged by the capture mechanism as disclosed by Tsushihashi et al/Rosenberg et al with a first and second pulley, a belt disposed about the first and the second pulley, a trolley configured to move along a guide rail in response to a corresponding movement of the peripheral device when engaged by the capture mechanism, a rotation-motion sensor to measure rotation of the peripheral device and a translational-motion device to measure translational-motion when engaged by the capture mechanism, the translational-motion sensor being coupled to the first pulley, or an actuator coupled to a second pulley with the actuator being configured to apply force-feedback by controlling a rotation of the second pulley for the purposes of providing a training simulator with all elements of actual operating conditions without requiring a live patient.

Response to Arguments

The applicant has made several arguments for claim 12. While these arguments are moot in light of the new ground of rejection here presented, the Examiner wishes to point out that the

Art Unit: 3714

Applicant's arguments are centered around an unclaimed "gripping object" on for example page 13 lines 14 and 15 of the Applicant's arguments. A capture mechanism is broader than a gripping object.

The Applicant further argues that Tsuchihashi does not teach sensing the movement of the peripheral device in the capture mechanism when engaged. While it does not sense position, it does sense speed. Speed is also movement which when coupled with negative and positive components provide direction.

Claims 19-24, 26-28, 30, 31, and 33 remain allowed.

Conclusion

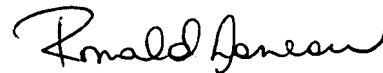
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Travis R. Banta whose telephone number is (571) 272-1615. The examiner can normally be reached on Monday-Friday 9-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bob Pezzuto can be reached on (571) 272-6996. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3714

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TB


RONALD LANEAU
PRIMARY EXAMINER

9/30/07